

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

IN THE APPLICATION OF:

YOUNG H. KIM, ET AL.

CASE NO.: CL2207USNA1

APPLICATION NO.: 10/780,380

CONFIRMATION NO.: 1816

GROUP ART UNIT: 1772

EXAMINER: MICHAEL C. MIGGINS

FILED: FEBRUARY 17, 2004

FOR: ARTICLES COMPRISING AQUEOUS DISPERSIONS OF POLYUREAURETHANES

APPEAL BRIEF PURSUANT TO 37 C.F.R. §41.37

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attention: Mail Stop Appeal Brief - Patents

Sir:

This is an appeal to the Board of Appeals from the Final Office Action mailed August 24, 2007, in which the Examiner finally rejected claims 1-7 of the above-identified applications. Appellants timely filed a Notice of Appeal on February 13, 2008. Therefore, the due date for filing the Appeal Brief is April 14, 2008, without extension of time.

As required by 37 C.F.R. §41.37, a single copy of this brief is being filed with the filing fee of \$500.00. Please charge the fee to Deposit Account No. 50-3223.

1. REAL PARTY IN INTEREST

The real party in interest in the present appeal is Invista North America S.à r.l., a *société à responsabilité limitée*, incorporated under the laws of Luxembourg, having acquired rights from E.I. DuPont De Nemours and Company by way of an assignment recorded in the United States Patent and Trademark Office at Reel 015286, Frame 0708, having acquired rights from the inventors by way of an assignment.

2. RELATED APPEALS AND INTERFERENCES

No related appeals or interferences are known to the Appellanst or Appellants' legal representative which will directly affect or be directly affected by or have bearing on the Board's decision in this appeal.

3. STATUS OF THE CLAIMS

Claims 1-7 are currently pending in the application. Claims 1-7 stand finally rejected. The rejections of Claims 1-7 are being appealed.

4. STATUS OF AMENDMENTS

No amendments have been made to the claims subsequent to the final rejection.

5. SUMMARY OF CLAIMED SUBJECT MATTER

The two independent claims are 1 and 7.

Claim 1 is directed to an article made from a polyureaurethane aqueous dispersion (page 4, lines 4-5); said dispersion comprising a water miscible organic solvent (page 6, lines 25-28) and a polyureaurethane comprising a THF copolymer soft segment comprising 25 to 60 percent by weight of ethylene glycol as a comonomer (page 5, lines 26-28) and an aromatic diisocyanate (page 4, line 21).

Claim 7 is directed to a process for producing an article made from a polyureaurethane aqueous dispersion (page 4, lines 3-15); said dispersion comprising a water miscible organic solvent (page 6, lines 25-28) and a polyureaurethane comprising a THF copolymer soft segment comprising 25 to 60 percent by weight of ethylene glycol as a comonomer (page 5, lines 26-28) and an aromatic diisocyanate (page 4, line 21), comprising the steps:

- a) dipping a mold into a coagulant solution and drying at an elevated temperature;
 - b) dipping the coagulant solution-coated mold into an aqueous polyureaurethane dispersion and drying;
 - c) subjecting the coated mold to a salt leaching bath; and
- drying the coated mold at elevated temperature before stripping the article off of said mold.

6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- I. Are claims 1-3 and 6 obvious under 35 U.S.C. §103(a) over WO 02/08327 A1 to Anderle et al. ("Anderle") in view of U.S. Patent No. 4,120,850 to Pechhold ("Pechhold")?
- II. Are claims 4 and 5 obvious under 35 U.S.C. §103(a) over Anderle in view of Pechhold and further in view of U.S. Patent No. 5,198,523 to Baumann et al. ("Baumann")?
- III. Is claim 7 obvious under 35 U.S.C. §103(a) over Anderle in view of Pechhold in view of U.S. Patent No. 5,998,540 to Lipkin et al. ("Lipkin")?
- IV. Was the terminal disclaimer filed on October 23, 2007 sufficient to overcome the provisional non-statutory obviousness-type double patenting rejection of claims 1-7 over U.S. Application Nos. 10/700,859 and 10/701,317 in combination with various other references?

7. ARGUMENTS

I. Claims 1-3 and 6 are not obvious under 35 U.S.C. §103(a) over WO 02/08327 A1 to Anderle et al. ("Anderle") in view of U.S. Patent No. 4,120,850 to Pechhold ("Pechhold").

Anderle discloses a polyurethane dispersion that may include a polyether diol. The polyether diol may be derived from any alkylene oxide such as ethylene oxide, propylene oxide, butylene oxide, styrene oxide, tetrahydrofuran, epichlorohydrin, and mixtures thereof. Anderle, page 11, lines 17-19. Anderle does not disclose, teach or suggest any copolymers of ethylene oxide and tetrahydrofuran.

Pechhold discloses polyether urethane polymers prepared from copolymers of tetrahydrofuran and ethylene oxide. The Examiner has cited Pechhold for disclosure of a THF copolymer soft segment having 25-60% ethylene glycol as a comonomer. The Examiner proposes that the motivation to combine this teaching of Pechhold with Anderle would be to "obtain polyurethane products with better resistance to degradation on exposure to moisture." Office Action of 3/2/2007 page 3, lines 5-8. However, Pechhold does not teach that the THF copolymer results in the resistance to moisture degradation. To the contrary, Pechhold teaches that the use of a diol chain extender achieves the resistance to moisture degradation. Pechhold states at column 1, lines 39-46: "The use of diols as chain-extending agents in preparing the polyurethanes of the invention not only provides polyurethanes with better resistance to degradation on exposure to moisture than those of Azelrood and Lajiness, but also eliminates the use of the carcinogenic amines."

The teaching of Pechhold with respect to the diol chain extenders affects the establishment of a prima facie case of obviousness in two respects. First, there is no motivation to combine the THF copolymer of Pechhold with the polyurethane of Anderle because according to Pechhold, it is the diol chain extender of Pechhold and not the THF copolymer that provides the improved properties with respect to moisture degradation. Second, there would be no expectation of success with respect to the articles of the present

invention, which have been found to unexpectedly have a resistance to degradation upon exposure to moisture even though these articles may be prepared without Pechhold's diol chain extender.

The present claims have been amended to require an organic solvent or diluent in the polyurethane dispersion. An organic solvent is not disclosed by Anderle which avoids the use of such solvents. Anderle is directed to the use of a plasticizer which specifically replaces an organic solvent or diluent in the dispersion of Anderle. As such Anderle not only fails to disclose the inclusion of an organic solvent, but also teaches away from this addition. See Anderle p. 2, lines 11-12 and p. 6, lines 14-19 where Anderle explains that a plasticizer is used as the diluent for the prepolymer and that the process occurs in "the substantial absence and preferably the complete absence of an organic solvent or diluent other than the plasticizer."

Since the combination of Anderle and Pechhold fail to disclose, teach or suggest every element of the present claims and actually teach away from the claims as amended, they fail to establish a prima facie case of obviousness with respect to the present application. Reconsideration and withdrawal of the rejections of under Section 103, are appropriate and respectfully requested.

II. Claims 4 and 5 are not obvious under 35 U.S.C. §103(a) over Anderle in view of Pechhold and further in view of U.S. Patent No. 5,198,523 to Baumann et al. ("Baumann").

Baumann is only cited against dependent claims 4 and 5 to show the puncture strength and tear strength of the articles prepared therein. Given that Baumann teaches a thermoplastic polyurethane which is different from the polyurethanes taught by Anderle and Pechhold, the references are not properly combinable, since the properties of a particular polyurethane would not necessarily be the same as the properties of a different polyurethane. However, even if combined with Anderle and Pechhold, Baumann does not cure any of the

deficiencies of those references in establishing a *prima facie* case of obviousness with respect to the claims from which claims 4 and 5 depend. Therefore, reconsideration and withdrawal of rejection of claims 4 and 5 are appropriate and respectfully requested.

III. Claim 7 is not obvious under 35 U.S.C. §103(a) over Anderle in view of Pechhold in view of U.S. Patent No. 5,998,540 to Lipkin et al. ("Lipkin").

Anderle and Pechhold are cited, again, to allegedly show the remaining features of the inventive composition, and are insufficient to establish a *prima facie* case of obviousness as discussed above. Considering that Lipkin is only cited to show the method of preparing the article, Lipkin fails to overcome the deficiencies of Anderle and Pechhold. Therefore, the combination of Lipkin with Anderle and Pechhold fails to disclose, teach or suggest every element of claim 7. Accordingly, reconsideration and withdrawal of the rejection of claim 7 are appropriate and respectfully requested.

IV. Was the terminal disclaimer filed on October 23, 2007 sufficient to overcome the provisional non-statutory obviousness-type double patenting rejection of claims 1-7 over U.S. Application Nos. 10/700,859 and 10/701,317 in combination with various other references?

A terminal disclaimer over U.S. Application Nos. 10/700,859 and 10/701,317 with the appropriate fee was filed on October 23, 2007. Therefore, Appellants respectfully submit that the double patenting rejection has been obviated. According, withdrawal of the rejection is requested.


CONCLUSION

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In view of the remarks set forth above, reconsideration and withdrawal of the rejections are appropriate and respectfully requested. Appellants submit that the present claims are patentably distinct over the art and in allowable form. Early allowance is, therefore, solicited. If there are any questions regarding this response, they may be directed to the undersigned attorney.

Date: 4-14-08

Respectfully submitted,


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8. CLAIMS APPENDIX

1. An article made from a polyureaurethane aqueous dispersion; said dispersion comprising a water miscible organic solvent and a polyureaurethane comprising a THF copolymer soft segment comprising 25 to 60 percent by weight of ethylene glycol as a comonomer and an aromatic diisocyanate.
2. The article of claim 1, wherein said article is selected from the group consisting of gloves, finger cots and condoms.
3. The article of claim 1, having a tensile strength of greater than 2030 psi.
4. The article of claim 1, having a puncture strength of at least 200 lb/in.
5. The article of claim 1, having a tear strength per thickness of material of at least 20 Newtons/mm.
6. The article of claim 1, having an improved resistance to solvent attack.
7. A process for producing an article made from a polyureaurethane aqueous dispersion; said dispersion comprising a water miscible organic solvent and a polyureaurethane comprising a THF copolymer soft segment comprising 25 to 60 percent by weight of ethylene glycol as a comonomer and an aromatic diisocyanate, comprising the steps:
 - d) dipping a mold into a coagulant solution and drying at an elevated temperature;
 - e) dipping the coagulant solution-coated mold into an aqueous polyureaurethane dispersion and drying;
 - f) subjecting the coated mold to a salt leaching bath; and drying the coated mold at elevated temperature before stripping the article off of said mold.

9. EVIDENCE APPENDIX

No additional evidence was submitted in this application including evidence pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132.

10. RELATED PROCEEDINGS APPENDIX

No related appeals or interferences are known to Appellant or Appellants' legal representative which will directly affect or be directly affected by or have bearing on the Board's decision in this appeal.